

**DEFINING THE NEED FOR AN EMERGENCY OPERATIONS PLAN IN THE TOWN
OF GRAND CHUTE, WISCONSIN**

**EXECUTIVE ANALYSIS OF FIRE SERVICE OPERATIONS IN EMERGENCY
MANAGEMENT**

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ABSTRACT

The problem was the Town of Grand Chute does not have an Emergency Operations Plan (EOP) in place for such times when a disaster of any kind should strike the Township. The purpose of this applied research paper is to define the need for an EOP for the Town of Grand Chute along with identifying what strategies have been used to develop an effective EOP.

Evaluative research supported by descriptive and historical methodologies were utilized to answer the following questions:

1. What are the probabilities of a disaster occurring in Grand Chute and the surrounding region?
2. Do other municipalities within the State of Wisconsin have an established EOP and if so, what does their plan include?
3. What are the strategies others have used to develop an EOP?

The procedures utilized to complete the research included a literature review, personal contacts with local officials, a survey, a review of current municipal EOPs and completion of a community risk assessment.

The results of the research indicated Grand Chute and the region are at risk and vulnerable to many different types of potential large-scale natural and man-made disasters. State and regional EOPs are based on Federal legislative requirements. The State of Wisconsin established the legal basis for the development of an EOP and requires each county to develop and maintain a plan. Municipalities in Wisconsin similar in size to Grand Chute have established EOPs and are similar in content to the States plan, along with the format required of counties. The research indicated the strategies the municipalities used to develop their plan was a

partnership with the their respective emergency management coordinators from the county, along with guidance documents available from the State and Federal governments.

Recommendations from this research project included the following:

- The results of the community risk assessment need to be incorporated into a plan and review process and updated on an annual basis or as needed.
- Create a Town of Grand Chute Emergency Operations Planning Committee consisting of the Town Administrator, Department Heads, and the Outagamie County Emergency Management Coordinator and/or staff. The mission of this committee will be to develop a Town of Grand Chute EOP meeting the needs of this community.
- Training for all Town employees must be completed to ensure each employee carries out essential components of the plan.
- Once the EOP is developed and the training is completed the Town should conduct a series of exercises to evaluate the effectiveness of the plan and the training provided.
- The EOP must be evaluated and updated on a consistent basis. After an exercise is conducted or if the EOP is utilized during an actual emergency a post-incident analysis or after action report must be completed. Any recommended changes must be evaluated and if warranted the changes incorporated into the EOP.

The anticipated completion date to fully implement these recommendations is March 2006.

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INTRODUCTION

Large-scale emergency events occur throughout the United States every year on numerous occasions. Large-scale emergency events however, do not occur in every community in the United States very frequently. An Emergency Operations Plan (EOP) is a critical component to protect the community, ensure continuity of services, and manage resources in the most effective manner.

In the State of Wisconsin the State and counties are responsible for developing, implementing, and exercising emergency operation plans for their jurisdiction. Municipal governments are not obligated to have an emergency operation plan in place. The problem is the Town of Grand Chute does not have an EOP in place for such times when a disaster of any kind should strike the Township. Outagamie County does have an emergency operations plan in place. This plan is generic in nature and is geared towards large-scale disasters on a countywide basis. This plan does not specifically address each local municipality within the county.

The purpose of this applied research paper is to define the need for an EOP for the Town of Grand Chute along with identifying what strategies have been used to develop an effective EOP. This research information and data will be used to define the need and potentially develop and incorporate a working EOP for the Town. If this applied research paper, associated research, followed by the development of an EOP for the Town is not completed the author believes the consequences could be severe. In the event a disaster (large or small scale) does occur important high priority items would not be addressed in a timely manner to better serve those affected by the disaster. The end result of not being prepared with an effective EOP could lead to poor service to the community, increased property damage, increased financial loss to the business

community, and potentially an increase in the loss of life. Evaluative research supported by descriptive and historical methodologies were utilized to answer the following questions:

1. What are the probabilities of a disaster occurring in Grand Chute and the surrounding region?
2. Do other municipalities within the State of Wisconsin have an established EOP and if so, what does their plan include?
3. What are the strategies others have used to develop an EOP?

BACKGROUND AND SIGNIFICANCE

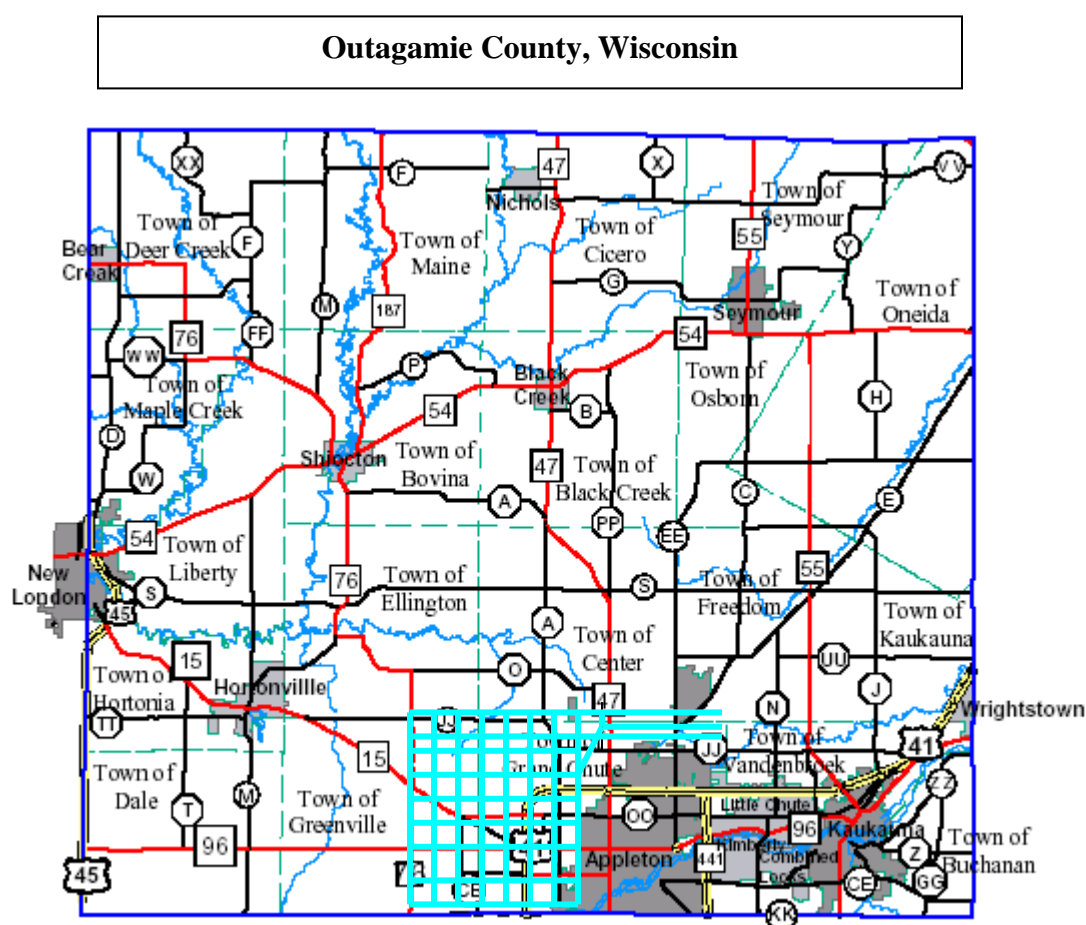
The Town of Grand Chute is a community of almost 20,000 residents, within 25 square miles, located in the east central portion of Wisconsin within Outagamie County, between Green Bay and Oshkosh. The Town can best be described as the commercial center of the region and it is home to the largest regional shopping center in Wisconsin north of Milwaukee. Although the Town is predominantly suburban with numerous commercial and residential developments, it has remained rural along its northern boundary.

The Town is a rapidly developing Township that carries a reputation of being desirable for commercial development along with multi-family and single family homes. The Town was incorporated in 1849, and is now one of the larger communities in northeastern and central Wisconsin. According to the 2003 census, the Town has a population of 19,760. The 1990 census reported a population of 14,490, and the 2000 census reported a population of 18,392 (<http://www.census.gov/>).

The Grand Chute Volunteer Fire Department was formed in 1938 by a group of townsmen (<http://www.angelfire.com/wi2/gcfd/>). Today, the Grand Chute Fire Department is a combination department consisting of ten full-time career personnel and 50 part-time personnel.

In 2004, the department responded to over 1,200 emergency calls for service (FireHouse Software, 2004). Emergency responses included all incidents requiring prehospital emergency medical care, fire suppression, hazardous materials emergencies, specialized rescue, fire code enforcement, inspection, fire investigation, public education, and emergency management activities.

The Town of Grand Chute is the second largest out of 34 municipalities in Outagamie County. The Town is located in the southernmost portion of the County:



Most of Outagamie County is rural consisting of small municipalities supporting the agricultural industry. The southern half of Outagamie County consists of larger municipalities that support a wide array of commercial, industrial, and residential developments. According to

the U.S. Census Bureau, Outagamie County had a 2004 population of 169,337, a 2000 population of 160,971, and a 1990 population of 140,510 making Outagamie County one of the fastest growing Counties and sixth most populated County in the State of Wisconsin (<http://factfinder.census.gov/>).

The responsibility of Emergency Management within Outagamie County lies in the Sheriff's Office. The Office of Emergency Management consists of one full time employee (Coordinator) and three part time employees. The Emergency Management Coordinator has developed an emergency operations plan for Outagamie County. The plan is distributed to all municipalities and is exercised on a regular basis at the county level.

The Town of Grand Chute does not have an emergency operations plan and therefore relies on the county's plan for operational management during a large-scale emergency or disaster. The problem with this is the county plan does not address the roles and responsibilities of personnel and operations at the municipal level. The county plan is generic in regards to the roles and responsibilities of the local municipalities and the plan does not address hazards and personnel actions specific to the Town. "Although this plan is somewhat generic in nature, it covers many different scenarios and situations. You may utilize this plan for your own use in developing a municipal plan for your community" (B. Sims, personal communications (memo), January 23, 2004). The risk of not having an emergency operations plan at the Town level is inviting chaos and the potential for an emergency to not be handled appropriate and timely.

The significance of this project to the Town will be to evaluate the research and assist in the development of a municipal emergency operations plan to the elected officials, Town Administrator, Department Heads, Supervisors, and employees. This applied research paper

should serve as the foundation for the Grand Chute Fire Department to develop and implement an emergency operations plan for the Township.

This applied research paper relates to the strategic perspectives of Incident Command System (ICS), National Incident Management System (NIMS), National Response Plan (NRP), community risk and capability assessment, developing resources and the emergency operations center, damage assessment, incident documentation, and joint training taught in the Executive Analysis of Fire Service Operations in Emergency Management program (EAFSOEM, R306) (USFA 2004). This applied research paper relates to the United States Fire Administration (USFA) operational objective “2,500 communities will have a comprehensive multi-hazard risk reduction plan led by or including the local fire service, and to appropriately respond in a timely manner to emergency issues” (USFA 5-year operational objectives, 2003).

LITERATURE REVIEW

The purpose of this literature review is to gather information needed to address the questions asked in this research paper. The sources researched and the information gained is centered on the questions asked by the author. The research and literature reviewed includes emergency services/emergency management trade journals, books, the Outagamie County Emergency Operations Plan, and information gained from the Internet. While completing the literary review, opinions and findings were examined in relation to the project.

Question One: What are the probabilities of a disaster occurring in Grand Chute and the surrounding region?

To research this question the author utilized information accumulated from past disasters and large emergency incidents that occurred within the State of Wisconsin, Outagamie County,

and the Town of Grand Chute. An important factor in addressing this question is what constitutes a disaster for Grand Chute? Historically, this was a difficult question to answer because of the lack of information pertaining to Grand Chute. No literary information was found to address the small-scale local disaster incidents.

The Internet provided a large amount of information regarding research on past disasters and disaster declarations. The FEMA: Disaster Federal Register Notices, Declared Disasters Archives (www.fema.gov/news/disasters.fema) included information on federally declared disasters, major disaster declarations, emergency declarations, and fire management assistance declarations for every State in the Nation from 1984 to 2004. This information was helpful in identifying the potential frequency and types of disasters in this region.

The National Climatic Data Center (www.ncdc.noaa.gov) website was accessed for further research information. A query was conducted on the U.S. Storm Events Database (www.4.ncdc.noaa.gov/cgi-win/wwwcgi.dll?wwEvent~Storms). The query parameters were established for Outagamie County, Wisconsin from January 1, 1985 to January 1, 2005. The information gained is significant to the research indicating the history of severe weather.

The Tornadoes of Wisconsin website (<http://www.wx-fx.com/tornado.htm>) has a long list and description of tornadic activity in the State of Wisconsin starting in 1865. The author of this website explains the historic detail of each tornadic event. None of the events listed were in Outagamie County however, some of the events are considered regional.

Floods have been the leading natural disaster in the United States during the 20th Century, representing 40 percent of all natural disasters in terms of number of lives lost and property damage. Wisconsin is no stranger to hydrological disasters. According to the Natural Disaster Damage Report produced by the Department of Wisconsin Emergency Management

(<http://emergencymanagement.wi.gov/docview.asp?docid=107>) severe flooding resulting in property loss and at times loss of life has occurred in the State every year since 1971. This report dated back to 1971 when these records started being managed by the Department of Wisconsin Emergency Management.

The Department of Wisconsin Emergency Management provided a report on disaster response and recovery focusing on each County in Wisconsin. Outagamie County has experienced frequent severe flooding events

(<http://emergencymanagement.wi.gov/sublink.asp?linksubcat2id=70&linksubcatid=87&linkcatid=40§ionid=30&locid=18>). This data was reported from 1971 to present when the Department of Wisconsin Emergency Management began keeping these records.

The United States Geological Survey National Seismic Hazard Mapping Project website (<http://eqhazmaps.usgs.gov/index.html>) was accessed and evaluated. The information reviewed indicated the State of Wisconsin is not an area of the United States in an at risk location.

America Burning, published in 1973, provided important foundations and focus to the management of fire risk in the United States. In 1987, America Burning Revisited was published. The resulting document America at Risk resulted in twelve findings and recommendations. The demand for fire suppression is expected to decrease in the future. The demand for fire protection, however, will continue and possibly even increase as the effort is shifting to fire prevention and public education duties (America Burning Revisited, 1987).

Historically, in Grand Chute the number of fire related incidents has increased, however the amount of annual fire loss has remained somewhat the same. There have been years where an increase in fire loss was experienced, however this can be attributed to one single large incident. A historical analysis of fire loss in Grand Chute revealed one single incident in 2001

where a significant commercial structure fire resulted in a countywide effort in controlling the blaze. This incident spanned over four days to control and resulted in over one million dollars in fire loss (Review of Grand Chute Fire Department Records Management).

The threat of terrorism has always been present however; this threat was once thought of as only domestic and mainly isolated to small domestic extremist groups or an upset individual attempting to accomplish terroristic results. With terrorism, fire and emergency service organizations are now responding to large crime scenes. The Department of Defense defines terrorism as “The calculated use of violence or the threat of violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological” (Emergency Response to Terrorism, Self-Study, 1999).

There is little information about terrorist activities in the State of Wisconsin. The Town of Grand Chute maintains a large commercial base consisting of a sizeable shopping mall that has been identified as a potential terrorist target. According to the Grand Chute Police Chief there has not been a terroristic type of event at the shopping mall. However the Mall has been evaluated by consultants and has received Federal support for target hardening (E. Kopp, Grand Chute Police Chief, personal communications, May 15, 2005). According to the management company of the Mall, bomb threats are received on a frequent basis “couple of times a year.” The bomb threats received have never come to fruition since the Mall was constructed in 1985.

Hazardous material presents a unique challenge to every community in America. According to the Wisconsin Emergency Management website (http://emergencymanagement.wi.gov/section_detail.asp?linkcatid=77&linkid=30&locid=18) “Wisconsin has many potential sources for technological threats - 3 active nuclear power plants, 3,678 miles of railroad tracks, 111,517 miles of roads and highways, 150-200 airports, and

numerous active harbors along Lakes Superior and Michigan and the Mississippi River.” The information gained from this website also states “Under the Emergency Planning and Community Right to Know Act (EPCRA) there are more than 7,000 facilities in Wisconsin that plan and report use/storage certain chemicals.”

The Town of Grand Chute has several EPCRA sites. A historical search of data within the Grand Chute Fire Department (FireHouse Records Management) revealed one significant hazardous materials incident in a food processing facility resulting in the evacuation of businesses, and numerous minor injuries to facility personnel.

The Town of Grand Chute is surrounded by major transportation venues including State and County highways, rail, and one medium sized airport. A review of the United States Department of Transportation, Hazardous Materials Information System (http://hazmat.dot.gov/pubs/inc/data/2003/sum/2003ex10-1_10-2.pdf) reported the number of hazardous materials incidents in 2002 and 2003.

Wisconsin Central Rail Lines operates two rail lines traveling through the Town of Grand Chute. There has never been an incident involving a train in Grand Chute, however there has been two large scale hazardous materials incidents involving this rail line in communities near (within 30 miles) Grand Chute. The first incident was in 1996 in Weyauwega, Wisconsin. A train carrying Liquefied Petroleum Gas derailed causing a fire and community-wide evacuation for several weeks (Burke, 1996). Oshkosh, Wisconsin experienced a train rail car fire in 2000 that involved sodium hydrosulfite. This incident caused citizens and business to be evacuated for several blocks, remaining evacuated for several days until this situation was resolved (Hansen, 2000).

The literature review pertaining to the historical significance of disasters did reveal enough information to indicate vulnerability along with risk of significant disaster situations in Grand Chute along with the regional area.

Question Two: Do other municipalities within the State of Wisconsin have an established EOP and if so, what does their plan include?

Members of a community must work together to develop an effective emergency operations plan. Because of the uniqueness of each community, no single approach is appropriate for all communities. The benefits of an effective EOP include; a baseline for evaluating options and emergency operations; a mechanism to communicate and document the results of decisions; an orderly, systematic approach to decision making (FEMA, 2004).

In the State of Wisconsin, emergency management is under the Department of Military Affairs. Wisconsin Emergency Management (WEM) manages the EOP for the state. Wisconsin State Statutes Chapter 166 Emergency Management was reviewed to determine the statutory requirements and any information concerning local EOP's. This document provided valuable information pertaining to the powers and duties of Counties and Municipalities regarding emergency management within the State of Wisconsin. Wisconsin State Statute, Chapter 166.03, 4,(a) states:

“The governing body of each County, town and municipality shall adopt an effective program of emergency management consistent with the state plan of emergency management and, except at the county level in counties having a county executive, shall appoint a head of emergency management services.”

Wisconsin State Statute, Chapter 166.03, 4,(d) states:

“During the continuance of a state of emergency proclaimed by the governor the county board or each county situated within the area to which the governor’s proclamation applies may employ the county emergency management organization and the facilities and other resources of the organization to cope with the problems of the emergency, and the governing body of each municipality and town situated within the area shall have similar authority with respect to municipal emergency management organizations, facilities and resources. Nothing in this chapter prohibits counties and municipalities from employing their emergency management organizations, facilities and resources to cope with the problems of local public emergencies.”

Wisconsin State Statute, Chapter 166.03, 5, Powers and Duties of Head of Emergency Management Services (a) states:

“The head of emergency management services in each county, town and municipality shall for his or her respective county, town or municipality, develop and promulgate emergency management plans consistent with state plans, direct the emergency management program and perform such other duties related to emergency management as are required by the governing body and the emergency management committee of the governing body when applicable.”

These statutes are beneficial in the development of a local emergency operations plan.

As part of the literature review the State of Wisconsin Emergency Operation Plan was evaluated. The mission of this plan states, “Wisconsin Emergency Management (WEM) coordinates State disaster response and recovery efforts in support of local government. Through planning, training, and exercising we prepare response agencies, volunteer organizations, the

private sector and citizens to respond to and recover from disasters.” The plan then explains the purpose, scope, organization, policies (including authority), situation and assumptions, concept of operations, phases of emergency management, levels of activation, EOC operations, Emergency Support Function and Agency Responsibility, and then numerous attachments (<http://emergencymanagement.wi.gov/docview.asp?docid=2841&locid=18>).

On January 23, 2004 the Outagamie County Office of Emergency Management issued a new County EOP. In the cover letter written by the Outagamie County Emergency Coordinator, the Coordinator stated, “Although this plan is somewhat generic in nature, it covers many different scenarios and situations.” The Coordinator continued by stating, “I will continue to update our County-wide EOP as in the past, but if you need some direction now and easy to follow guidelines, please use this book.” This EOP has not been updated since the inception of this plan. In discussion the update with the Emergency Management Coordinator, Mr. Sims stated “the plan will be updated soon, because WEM is currently revising the State plan.” The plan does follow a generic format, but is very easy to understand and utilize (Outagamie County Office of Emergency Management, Disaster Plan, 2003).

The Outagamie County Disaster Plan does address a lot of the similarities found in other plans. A magazine article authored by Ernest G. Vandrell in the April 2001 edition of Disaster Management stated “being prepared for critical incidents involves four important components: planning, reviewing, training, and testing” (Vandrell, 2001, p.43). The Outagamie County of Emergency Management devotes a great deal of time annually to the exercising of the County Disaster Plan. Lessons learned are developed from the exercises and individual organizations can utilize the lessons learned to train and develop their personnel on any weaknesses identified.

To further research local emergency operations plans the author utilized the Wisconsin State Fire Chief's Association membership directory to identify municipalities of similar size in an effort to receive copies of their EOP if they had one. For the purposes of literary review the author received and reviewed EOP's from the following municipalities:

- City of Onalaska
- Town of Caledonia
- Town of Menasha
- City of Kaukauna
- City of Mequon
- City of Stevens Point
- City of Cudahy

After reviewing the received EOP's from the various municipalities commonalities were found. Each of the EOPs seemed to follow similar patterns and similarities in regards to their development. Each of the EOPs followed an all hazards approach to the management of local emergencies, and each EOP defined the roles and responsibilities of elected officials, municipal administrators, department heads, supervisors, and at times employees.

Question Three: What are the strategies others have used to develop and EOP?

In an effort to evaluate strategies other organizations have utilized in the development of their EOP the author received and reviewed seven different EOPs submitted by municipalities of similar size from within the State of Wisconsin. As already stated while addressing question 2, these plans were similar in nature and tended to follow the same format in their development.

When addressing the strategy used to develop an EOP Chief Frank C. Schaper stated in an article for 911 Magazine "The reason an EOP is written is to maximize a community's

emergency response capability. Its purpose is to assign responsibilities, develop procedures, and identify resources that will give local officials the best comprehensive emergency management capability possible, considering the resources available” (Schaper, 2000, p. 89).

When deciding on the strategy to be utilized for the development of an EOP a comprehensive analysis of available resources, workload, in combination with a community-wide risk hazard evaluation including population demographics, community infrastructure, and related public safety needs must be completed. “Disaster planning starts with a needs assessment. Next comes program planning, formative evaluation and summative evaluation” (McCormick, 1997, p.18).

The current literature and the feedback from received EOPs indicated for municipalities the size of Grand Chute, the local fire chief has been the person responsible for the coordination and development of a local EOP. The role of the fire service in disaster control is similar to its role in fire suppression. The fire department is usually the first agency to respond to accidental and deliberate injuries and natural and manmade disasters (McCormick, 1997, p.18).

The goal of the Leading Community Risk Reduction (LCRR) is to develop leaders in comprehensive multi-hazard community risk reduction (LCRR, 2003). The benefits from the community risk-reduction process are multifaceted and include the community engaged and involved with the improvement of quality of life for the citizens. Emergency operation planning includes identifying the hazards, vulnerability, and assessing a risk rating to the hazards.

The goal of the Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) is to prepare senior fire officers in the administrative functions necessary to effectively manage the operational component of a fire department. The course

purpose is to improve the “knowledge, skills, and attitudes required of fire service leaders when applied to large-scale multi-agency emergency incidents in their communities.”

In a broader sense an EOP can be developed based on what other local municipalities have developed however, a risk assessment in which planners evaluate the probability and consequence of possible events is an important component of the plan (EAFSOEM, 2001, pg. 4-5). The review of the EAFSOEM manual provided valuable information pertaining to the development of the planning cycle.

In the Applied Research Paper *Re-Engineering Emergency Management: The City of Onalaska’s Pursuit Towards Improving Its Role In Emergency Management*, the author Paul Menches included a reference from *Emergency Response Planning for Corporate and Municipal Managers* regarding training. “An emergency plan is only as good as the training given to personnel who must implement the plan” (Erickson, 1999, p. 56). Although not researched in this ARP the author realizes training and exercising of the plan must be included in the plan.

NFPA 1600, *Standard on Disaster/Emergency Management and Business Continuity Programs*, (2004) was also evaluated.

It should be noted that most entities engage in multiple planning activities, (e.g. mitigation, planning, land use planning). Coordination ensures no duplication, improves understanding, increases support, and assures that all constituents have a voice, and so on. These plans can be separate or integrated into a comprehensive plan.

“The plan should be reviewed annually and updated as necessary. It should also be re-evaluated when any of the following occur:

- (1) Regulatory changes

- (2) New hazards are identified or existing hazards change
- (3) Resources or organizational structures change
- (4) After tests, drills, or exercises
- (5) After disaster / emergency responses
- (6) Infrastructure, economic, geopolitical changes
- (7) Funding or budget-level changes

When evaluating the strategies others have utilized to develop an EOP the author evaluated the Guide for All-Hazard Emergency Operations Planning (FEMA, 1996). This guide provides emergency managers and other emergency services personnel with information on FEMA's concept for developing risk-based, all hazard emergency operations plans. As explained in this guide the crucial element is to describe who does what when, identifying the resources, and the authority before, during, and following the emergency. This lengthy guide provides a "toolbox of advice" that would be very helpful in the development of an EOP on any level of government and potentially for the business community. The table of contents for this guide is as follows:

Foreword

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Chapter 7 – Linking Federal and State Emergency Response Operations

Glossary of Terms

List of Acronyms

Bibliography

As described in the Applicability and Scope personnel responsible for EOP development and maintenance in State and local emergency management agencies intend this guide primarily for use. It is strictly a guide. This guide provides the information and basis for the contents of an EOP and should be utilized as such.

On March 1, 2004 U.S. Department of Homeland Security Secretary Tom Ridge issued a memorandum concerning the National Incident Management System (NIMS), Homeland Security Presidential Directive (HSPD)-5, Management of Domestic Incidents. The memorandum stated “This system will provide a consistent nationwide approach for Federal, State, local, and tribal governments to work effectively and efficiently together to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity.” NIMS integrates existing best practices into a consistent, nationwide approach to domestic incident management that is applicable at all jurisdictional levels and across functional disciplines in an “all-hazards” context. NIMS and the associated National Response Plan (NRP) are the functional components that must be addressed in emergency operations planning on all levels of government.

The purpose of the NRP is to establish a comprehensive, national, all-hazards approach to domestic incident management across a spectrum of activities including prevention, preparedness, response and recovery. The NRP incorporates best practices and procedures from

various incident management disciplines and integrates them into a unified coordinating structure. The NRP describes capabilities and resources, establishes protocol, identifies responsibilities, and creates operational processes in conjunction with providing a framework for Federal interaction with other agencies (Department of Homeland Security, 2004).

In summary, based on the literature reviewed there is a high probability of small scale (local) and large-scale (regional) disaster in and around Grand Chute. Other municipalities of similar size do have emergency operations plans within their jurisdiction. Strategies in the development of emergency operation plans vary a little, however the literature reviewed does indicate a degree of cooperation with the County and State. Further discussion on the findings from the literature review will occur in the results section.

PROCEDURES

While attending the Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) course at the National Fire Academy (NFA) in March 2005, the author of this ARP realized the Town of Grand Chute did not have an EOP and this is a significant weakness for the Town. After returning from the NFA the author spoke to the Town Administrator concerning this issue. The Town Administrator agreed that by not having an EOP in place “a certain degree of exposure and inability to effectively manage an emergency is assumed” (M. Rohloff, Grand Chute Town Administrator, personal communications, March, 14 2005).

While at the NFA during the first two weeks in March 2005 the author utilized the resources found at the Learning Resource Center (LRC) to begin the literature review. The literature reviewed focused on the requirements, content, and preferred format of an EOP. Due to the nature of the questions a large amount of the literature review was completed using the

Internet and multiple search engines. This was a helpful tool due to the ease of accessibility and speed at which specific information could be found. Additional information was found utilizing professional trade journals, reviewing EFO applied research papers, FEMA documents and guides, and requesting emergency operation plans from municipalities from around the State of Wisconsin.

In determining the probabilities of a disaster occurring in the Town of Grand Chute and surrounding region a historical research methodology had to be utilized. One of the reasons for this question was due to the fact the author was new to the area having only lived in the area for one year. The other reason for this question was to determine how often an EOP would potentially be utilized along with what the most common emergency would be, or in the least define the vulnerability and risk.

The research focused on government sources (State of Wisconsin and Federal) found on the Internet. This information is readily available especially when accessing government related websites such as FEMA, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center, National Weather Service, Wisconsin Emergency Management, and the Wisconsin Department of Commerce.

When attempting to define the need for an EOP and assessing the probabilities of a disaster occurring Grand Chute a comprehensive risk analysis was completed. Lloyd Brokman, Chair of the Technical Committee for NFPA 1600, Recommended Practices for Disaster Management state, “there are so many disaster risk assessment methods, it’s unbelievable.” Before an affective EOP can be written, the risks have to be evaluated. For the purpose of this ARP, the “Community Risk Reduction” model was used. While attending the Leading Community Risk Reduction class (second class in the EFO program) at the NFA the author

learned how to use this risk assessment model. The Leading Community Risk Reduction student manual (2002) was used as a reference to develop the model utilized for this ARP.

A work group was established within the Town consisting of the Fire Chief, Street and Water Superintendent, and Police Department representative. By assimilating this forum of Town personnel the hazard identification matrix, vulnerability assessment matrix, and the risk-rating matrix was completed. With all three of these matrix's completed a community risk assessment was completed (Appendix A).

In order to effectively research question number two the author compiled a list of municipalities from around the State of Wisconsin with a population of 15,000 to 25,000. This population base was determined because of the similarity in population size with the Town of Grand Chute (19,760). Twenty-eight municipalities were found of this size and were made up of Cities, Villages, and Towns from within the State of Wisconsin.

A survey was developed including a cover letter and mailed to the 28 municipalities (Appendix B). The purpose of the survey was to determine if the municipality has an EOP in place, how the EOP was developed, if the EOP is exercised, if the EOP has been utilized during an actual emergency, and the effectiveness of the EOP. Included with the letter and survey was a self-addressed stamped envelop. The letter explained the reason why the survey was sent to the Fire Chief of the local municipality. At the end of the letter the author requested a copy of their EOP if they had one. Out of the 28 survey's mailed 17 (61%) were completed and returned to the author. Additionally, seven EOPs were received from municipalities representing 50% of the returned surveys.

The survey and received EOPs will assist in answering questions two and three. One of the received EOPs was from the City of Kaukauna. The City of Kaukauna is located within

Outagamie County, Wisconsin. The author maintains a professional relationship with the Fire Chief from the City of Kaukauna. The author spoke with the City of Kaukauna Fire Chief (Paul Hirte) concerning the development and use of the City's EOP. This was valuable information that will be utilized.

Limitations

Historical data concerning large-scale emergencies within Outagamie County and the Town of Grand Chute were difficult to find outside of the sources already identified in this ARP. The information found on the FEMA: Disaster Federal Register Notices, Declared Disaster Archives was somewhat limiting due to the archives only informing of major disaster declarations in the State 1984 to 1997. After 1997, the archived information revealed the State of the declared disaster along with the affected Counties in the disaster area.

A query completed on the National Climatic Data Center website produced a 20 year historical overview for Outagamie County, Wisconsin. As informative and productive as this query was, it was difficult to navigate through and to identify the information specific to the Town of Grand Chute.

While attempting to gather information on past emergencies within the Town of Grand Chute the author experienced difficulty locating information. The current records management system being used (FireHouse) contains information dating back 2000. The records management system used prior to that was difficult to utilize due to the program not working well with the computer system being used today. Prior to this records were hand written and difficult to obtain, and at times not able to obtain due to how these records are being stored.

The author did experience difficulty in finding information to be used for the ARP. Valuable information was gathered from a historical perspective as far as determining the

probabilities of a disaster occurring, however this information was limited to mainly weather related incidents. The vulnerability to a transportation or fixed facility emergency could be assessed, however no factual hard data was actually found during the research process. This is part of the research process but the researcher felt this was a limitation due to the need to find this historical data.

Seven Fire Chief's provided EOPs from their municipality. As beneficial as these examples were the author would have liked to receive more. This would have provided even more information to evaluate from a municipality the same size or close to the same size as Grand Chute.

The author developed the survey instrument utilized to gather the information needed concerning municipal EOPs from similar sized communities within the State of Wisconsin. The author realized after the surveys were returned that the survey itself was a limitation. The information gained was extremely valuable however it was difficult to document the findings in this ARP. Additionally, the author believes the findings will be somewhat difficult to understand by readers of this ARP.

The author of this ARP assumed all information reviewed, personal conversations, and surveys were accurate and up to date.

RESULTS

The research produced a collection of data in support of the three questions pertaining to the ARP.

Research Question 1: What are the probabilities of a disaster occurring in Grand Chute and the surrounding region?

The research indicated Grand Chute and the region is most at risk to weather related incidents and hazardous materials incidents. The Federally declared disasters declared for Outagamie County for the past 32 years were:

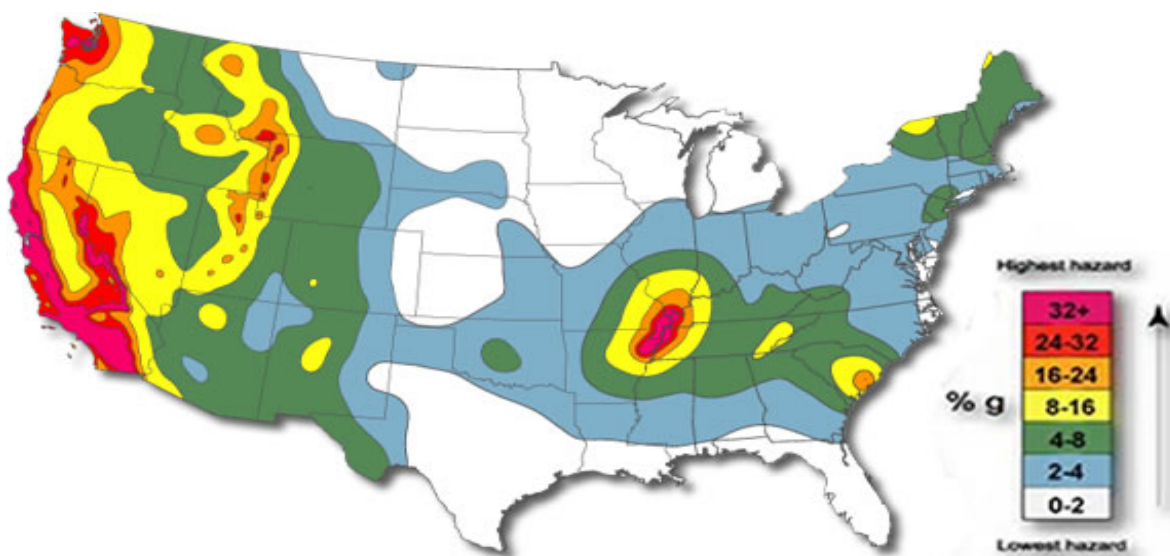
- 1973 - Flooding - Presidential Disaster Declaration
- 1975 - Army Worm Infestation
- 1976 - Drought - Presidential Emergency Declaration
- 1990 - Flooding/Tornadoes - Presidential Disaster Declaration
- 1993 - Flooding - Presidential Disaster Declaration
- 1996 - Severe Storms/Flooding
- 2001 - Severe Storms/Flooding - Presidential Disaster Declaration
- 2003 - Flooding
- 2004 - Severe Storms/Flooding/Tornadoes - Presidential Disaster Declaration

All of these federally declared disasters and local disasters are considered weather related. Historical records from the National Climatic Data Center indicated there were 221 significant weather related events in Outagamie County from January 1, 1985 to January 1, 2005. Included in this list is the time of the event, type of event, magnitude of the event, deaths/injuries sustained from the event, as well as property and crop damage sustained. During this 20-year history there have been 67 deaths, 33 injuries, \$12.033 million dollars in property damage, and \$56.2 million dollars in crop damage. An interesting finding in this research was the amount of deaths experienced. Out of the 67 deaths recorded, 57 were experienced in July 1995 during a severe heat wave affecting Outagamie County.

The research indicated a high probability and potential for atmospheric hazards – tornadoes, damaging winds, hail, severe winter storms, and extreme temperatures. Very few tornadic events have been recorded in this region during the past 20-years. The threat is always present during the spring and summer months. Tornadic events were recorded in Outagamie County in 2004 and as recent as the spring of 2005.

The research indicated a high probability and potential for natural hydrologic hazards. Grand Chute is flat and water runoff is slow at best. Since Grand Chute is a Township urbanization of streets has not always been present. Urbanization of streets and aggressive storm water management programs has been implemented during the past five years. This has helped manage the hydrologic problems once encountered on a frequent basis. The Town is still vulnerable to flash flooding during severe storms and torrential downpours.

As the research indicated from The United States Geological Survey National Seismic Hazard Mapping Project website, the State of Wisconsin is not in an at risk location for any type of seismic activity (<http://eqhazmaps.usgs.gov/index.html>):



The Town does face man-made and technological hazards. The rapid growth and large amount of commercial infrastructure makes the area particularly vulnerable to these hazards and the potential cascading events of a disaster. The area and region around the Town of Grand Chute supports large industry including the agricultural industry. Transportation routes in and around Grand Chute include highly traveled State highways, rail, and air transportation. This makes the area vulnerable to hazardous materials incidents.

The risk posed by a fixed facility hazardous materials incident is less than that of a hazardous materials transportation incident. There are a number of facilities that store and use reportable hazardous materials, however the industrialization trends indicates “clean” industry and industrial development within the Town is slow.

According to the United States Department of Transportation, Hazardous Materials Information System (http://hazmat.dot.gov/pubs/inc/data/2003/sum/2003ex10-1_10-2.pdf) the State of Wisconsin reported 241 hazardous materials incidents in 2002 resulting in three minor injuries, no fatalities, and \$164,480.00 dollars in loss. In 2003, the same document reported 217 hazardous materials incidents resulting in 2 minor injuries, no fatalities, and \$139,862.00 dollars in loss. This report did not state the location of the hazardous materials incident. After reviewing the report and evaluating the same information for every state in the Nation, Wisconsin is well below average in the number of hazardous materials incident and the resulting injuries, fatalities, and amount of dollar loss.

The threat of terrorism is ever present in the United States. The Town is not located in a large metropolitan area, however the commercial development, transportation infrastructure, and certain identified and visible targets does indicate a certain degree of risk.

As stated in the Leading Community Risk Reduction Student Manual (2003), “Risk assessment in any modern community is holistic, multidisciplinary, community-oriented, and mission-oriented.” This approach to the development of an EOP for the Township is warranted. The author focused on a historical perspective when researching the potential of disasters affecting the Town and region. While conducting this part of the research the author determined a risk assessment was warranted to fully address question one.

The community risk reduction matrix as learned in the LCRR course and utilizing the LCRR manual (2003) was utilized to complete the risk reduction matrix. Following these guidelines and utilizing the information gathered during the historical research the author assessed 15 potential disasters that could affect the Township. The following list is the disasters assessed and their corresponding risk rating:

- | | |
|--------------------------|---------------|
| • Tornados | Moderate Risk |
| • Damaging Winds | Moderate Risk |
| • Hail | Low Risk |
| • Winter Storm | Moderate Risk |
| • Extreme Temperatures | Low Risk |
| • Flooding | Low Risk |
| • Drought | Low Risk |
| • Earthquake | Very Low Risk |
| • Power Failure | Low Risk |
| • Hazardous Materials | Moderate Risk |
| • Loss of Domestic Water | Low Risk |

Question 2: “Does your municipality have a local emergency operations plan in place?”

13 (93%) of the surveys responded by circling “yes.”

Question 2a asked: “If your response was “**NO**” do you anticipate developing an emergency operations plan for your jurisdiction?” The one respondent that circled no to question two circled “yes” to this question.

Question 2b asked: “if your response was “**NO**” please list the reason(s) you are not going to develop an emergency operations plan.” The one respondent that circled “no” to question 2 did respond in this section by stating “In development for last year, final stages now.” With this response the respondent continued with the remaining questions on the survey.

Question 3: “How was your emergency operation plan developed?” The responses to each of the surveys are included under each bulleted statement of the question:

- Example/sample document from another jurisdiction? Please list the example/sample source: Seven (50%) responded to this bullet statement.

“In cooperation with Milwaukee County Emergency Government Office.”

“Sample from State Emergency Government.”

“It has been in place prior to my starting the fire chief job. I believe it was a committee through Brown County Emergency Management.”

“County EOP.”

“FEMA Template.”

“Worked with Ozaukee County Emergency Government.”

“Texas A&M University.”

- Committee of personnel from your municipality? Eight (57%) responded to this bullet statement.

One of the eight responded with a “no.”

The remaining seven responded with a “yes.”

- Partnering with the County Emergency Management Office? Five (36%) did not respond to this bullet statement. The remaining nine (64%) did respond.

One of the nine responded “no.”

The remaining eight responded “yes.”

- Other (please describe): Eight (57%) did not respond to this bullet statement.

The remaining six (43%) responded with the following statements:

“Local emergency management person worked with County emergency management office.”

“Our plan is older than the County’s we should incorporate it into that one, a future project.”

“Not sure-Plan was developed by former fire chief but is similar in nature to our County Plan.”

“Done by Department Staff on light duty.”

“We had a 2 “all day” meeting with several communities, Texas A&M staff, Red Cross, Emergency Management, Salvation Army.”

“The Kenosha County EM Office obtained a State grant to allow all municipalities to complete a plan.”

Question 4 asked: “How often is your emergency operation plan exercised?” Fourteen (100%) responded to this question. Eleven (79%) responded by stating annually. Three (21%) responded indicating the plan is not exercised, or infrequently exercised.

Question 5 asked: “Who attends training and exercises on the emergency operations plan from within your jurisdiction (please list):” Again, eleven (79%) responded to this question with the following responses:

“Our officers attend the planning sessions and off-duty personnel take part in the actual exercise.”

“Department heads, O/C Emergency Management, Council Representatives, Mayor, Various City Staff, Kaukauna Utility, and School System Representatives.”

“Dept. Heads, Fire and Police and in the future elected officials.”

“Command Staff.”

“Ozaukee County Emergency Government, Thiensville Fire Department (first in mutual aid company), Mequon Police Department, Public Works, School District Head, Hospital Official, City Administrator, Finance Director.”

“Public Safety Supervisors and involved Village Officials.”

“GFD Officers, County Emergency Government, Police Department.”

“Department Heads, Supervisors (Police and Fire).”

“In 2005, we had an exercise which included all department heads, first line supervisors.”

“Police, EMS, Fire, Mayor, City Admin, Streets, Water, School Admin, Library Admin, Senior Center Staff, Finance, City Engineer.”

“FD, PD, DPW, Administration.”

Question 6 asked: “That you know of, how many times has your emergency operations plan been utilized during an actual emergency situation?” All 14 (100%) responded to this question. Nine (64%) responded the emergency operations plan has never been utilized during an actual emergency. The remaining five (36%) responded with the following:

“1-2004 Tornado.”

“2”

“Once, Tornado in 2002.”

“Three times: Serious school bus accident involving 25 patients and two bomb threats involving the evacuation of 400 students each time.”

“2 or 3 times.”

Question 6a asked: “Was your jurisdictions emergency operations plan effective during the emergency situation (please circle the appropriate rating)? All five of the respondents who responded to question six indicating their plan has been used in an actual emergency answered this question with the following response:

Four circled very effective

One circled somewhat effective

Question 6b asked: “If your response was “somewhat effective or “was not effective” please explain why and if any changes were implemented:

The one respondent that circled somewhat effective stated: “It was some what effective because we didn’t or couldn’t contact everyone.” This respondent did not state if any changes were implemented.

One respondent who circled very effective did state the following: “Very effective, but we updated our cities evacuation policy and related SOG’s.”

The last statement on the survey stated: “Again, thank you for taking the time to complete this survey. I look forward to receiving your emergency operations plan document.”

Out of the 14 respondents to the survey seven (50%) did mail or email a copy of their municipalities emergency operations plan.

The author spoke to a local Fire Chief (P. Hirte, Kaukauna, Wisconsin Fire Department, personal communication, June 29, 2005) who stated “the City of Kaukauna partnered with the Outagamie County Emergency Management office in the development of their EOP.” Chief Hirte stated “the plan is exercised on an annual basis with the City department heads, elected officials, various City staff members, Kaukauna Utilities personnel, school system representatives, and personnel from the Outagamie County Emergency Management office.” When asked if the plan is effective, Chief Hirte stated “the plan was used during a tornado emergency in 2004, and was very effective, all departments and personnel understood their rolls and carried out their mission.”

The seven emergency operation plans were reviewed. All seven of the EOPs are similar in their design and make-up. The commonalities found within all seven are:

- Emergency telephone listings/contacts
- Legal description
- Acronyms
- Index
- Purpose
- Situation and assumptions
- Make-up of the annex's

All seven EOPs are written in manner that supports an “all hazards” approach and all seven reference their Counties EOP. The City of Mequon Municipal Emergency Operations Plan Description states “The procedures set forth in this plan serve as a link to the Ozaukee County Emergency Operations Plan (EOP). The activation of the municipal plan is the first step in accessing resources at the County, State, and Federal level.” Under the Concept of Operations of the City of Mequon plan states “The Mequon Emergency Management Coordinator, under the direction of the Chief Elected Official, is responsible for coordinating the response of municipal departments.”

The EOPs reviewed were similar and did seem to follow an established set of guidelines. Each of the EOPs had annexes or in the case of the City of Mequon, “reference attachments.” The terminology in each of the plans differed, but the content was the same. Each of the plans defined a municipal chain of command and defined who is in charge of what and when. The City of Cudahy included a comprehensive hazard analysis in their plan and was referenced in an annex. A comprehensive hazard analysis was not seen with any other plan.

State and regional EOPs are based upon Federal legislative requirements. As stated earlier in this ARP the State of Wisconsin established the legal basis for the development of an EOP and requires each County to develop and maintain a plan. FEMA (1996) developed a Guide for All-Hazard Emergency Operations Planning for state and local governments to assist when developing their EOPs. After reviewing this guide and the seven local EOPs received, it was evident this guide or portions of this guide was utilized or included in their development.

Research Question 3: What are the strategies others have used to develop an EOP?

The survey developed and used in this ARP included a question to assist in answering research question three. Survey question three is:

How was your emergency operation plan developed?:

- Example/sample document from another jurisdiction?
- Committee of personnel from your municipality?
- Partnering with the County Emergency Management Office?
- Other (please describe):

This question was helpful when addressing the third ARP question. The first bullet statement under this survey question asked if an example/sample document from another jurisdiction was used. Four of the six who responded to this bulleted question indicated they used the County EOP as the sample document. Eleven of the 14 returned surveys indicated their municipality partnered with the County emergency management office when developing their plan. One of the four respondents to the fourth bulleted statement under question three stated the local emergency management person worked with a County emergency management representative to develop their municipal plan.

The results of this survey indicated the majority of the participating municipalities utilized their County emergency management office in the development of their EOP. The City of Marshfield, Wisconsin utilized a sample document from the State of Wisconsin Emergency Management. The Village of Mount Pleasant partnered with the Racine County Emergency Management office.

The purpose of this applied research paper is to define the need for an EOP for the Town of Grand Chute along with identifying what strategies have been used to develop an effective EOP. The results of the research indicated an EOP is needed for the Town of Grand Chute. An

effective plan will enhance our ability to respond to the needs of the community in the event of a large-scale disaster or an incident requiring the coordination of multiple jurisdictions and resources. The strategies other municipalities have used to develop an EOP were evaluated. The majority of the responses indicated the municipality received assistance or guidance from their County emergency management office.

DISCUSSION

The research and literature review completed for this ARP is in line with the purpose and three questions asked in the introduction. Identifying the potential for a disaster to occur within the Township was the first step in the research process. This was needed in order to paint the picture of not only the potential but also the frequency of such disasters. Disaster planning should be a continuous process, updated periodically as the lessons learned from previous events are integrated into revised planning and training (NFA, 2001). The research indicated Grand Chute and the region is susceptible to disasters. The disasters that have occurred in Outagamie County have been few those that did occur were significant in terms of dollar loss, impact to the community, and at times loss of life.

The historical data concerning disasters in this region was somewhat limiting, however enough data was found to indicate our greatest threat and vulnerability lies with natural disasters. Historically, emergency planners and mitigation specialist have learned a lot in dealing with natural disasters around the country. However, these lessons learned have typically been learned after a disaster has occurred. "Natural disasters, such as hurricane Andrew's August 1992 assault on southern Florida and Louisiana, make all of us acutely aware of our vulnerabilities to disaster. Fortunately, catastrophes of this magnitude are rare, but disaster can strike in many ways" (Patkus, 1999). Almost every year in America a hurricane or severe tropical storm strikes the

eastern and/or southern states. Lessons are continuously being learned on how to effectively plan for and manage a hurricane event. The research indicated this region of Wisconsin has a history of severe storms producing flash flooding, wind damage, tornados, hail, severe winter storms, and heat emergencies.

Geographically the Town of Grand Chute is in an area where weather in the form of severe thunderstorms, winter storms, and high wind events occur. Super cell thunderstorms are not as prevalent in this part of the country as others, but they do occur. “Supercell thunderstorms are considered to be the most dangerous type of storm due to the extreme weather generated, including tornadoes, large hail, and flooding’ (Silver, 1991). Being prepared for a significant weather event is important and appropriate hazard mitigation plans need to be in place, exercised regularly, and practiced when the event occurs.

Risk assessment is important for a community to conduct because of the analytical assessment that is completed instead of the intuitive or perceived risk. Many communities are truly not aware of the risk they face and then are unprepared to react and respond to the emergency. In order to develop appropriate mitigation strategies an analytical, factual assessment of the risk must be completed. As the Town of Grand Chute continues to grow and additional infrastructure is built risk mitigation will change and evolve. The risk assessment must also change and evolve with the community.

The results of the completed risk assessment revealed weather related events, atmospheric and hydrologic hazards, along with hazardous materials incidents including terrorism pose the greatest probability of occurrence, and pose the greatest risk. The “all-hazards” approach in planning and preparing for these disasters is a concept that is simple in that

how you prepare for one disaster is the same for any other disaster. Preparedness can be achieved through thoughtful planning before a disaster (FEMA, 2004).

As stated in the Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM, 2001, 1st Edition, pg. SM 4-5) the benefits of planning include:

- An orderly, systematic approach to decision making.
- A mechanism to communicate and document the results of decisions.
- A baseline for evaluating options and emergency actions.

A risk assessment in which planners evaluate the probability and consequences of possible events is an important component of the plan. As the author reviewed the received EOPs the benefits stated above became very evident for those communities. The other part of the defined benefits that became evident is if the Town of Grand Chute experienced a large-scale emergency or disaster right now the community would suffer and chaos would ensue.

Also described in the EAFSOEM manual was a clear approach to preparing and writing a plan. The minimum requirements for the plan as written are:

- Identification of hazards, transportation routes, and additional facilities at risk or that could contribute to additional risk.
- Private and public sector emergency response procedures.
- Designation of a community coordinator and facility coordinator(s) to implement the plan.
- Emergency notification procedures.
- Methods for determining the occurrence of an event and the probable affected area and population.

- Description of community's emergency equipment and facilities, and the persons responsible for them.
- Evacuation plans.
- Description and schedules of training programs for emergency response personnel.
- Schedules for exercising emergency response plans.
- Methods to evaluate the emergency response planning effort.

One of the last statements made in this chapter of the EAFSOEM manual in preparing to write the plan was "Planning is a process, not just a document." This sentiment was evident in the returned surveys for this ARP. The majority of the returned surveys the respondent stated they worked with representatives from their local emergency management office in the development of their communities EOP. One of the respondents that completed the survey stated they developed their EOP before the County had developed an EOP. Also stated in that survey was a written comment describing the need to work with the County to develop a new more effective plan.

Each of the EOPs seemed to follow similar patterns and similarities in regards to their development. Each of the EOPs followed an all hazards approach to the management of local emergencies.

Lessons have been learned by local municipalities around the State of Wisconsin in regards to emergency operations planning. While researching the State statutes concerning emergency operations plans, the researcher learned the State of Wisconsin and the Counties within Wisconsin are required to have an EOP. Municipalities are not required to have an EOP, but are required to follow the established County and if needed the State plan. The research

indicated for municipalities the size of Grand Chute emergency operation plans have been developed are in place, updated, trained on, and exercised on a regular basis.

As the Town of Grand Chute and the infrastructure continue to grow the fire department is assuming many of the emergency management duties. The reason the author of this ARP chooses this topic is due to the fire department, specifically the fire chief assuming the role of the emergency management coordinator for the Township along with the lack of an EOP. This additional responsibility fits with the mission, values, and goals of the department but adds to the already long list of responsibilities the fire department has assumed. The information gained from *America at risk, America Burning Revisited* (2002) pointed out “To a great extent, the fire problem in America remains as severe as it was 30 years ago.” Two major conclusions were reached:

1. The frequency and severity of fires in America do not result in a lack of knowledge of the causes, means of prevention or methods of suppression. We have a fire “problem” because our nation has failed to adequately apply known loss reduction strategies.
2. The responsibilities of today’s fire departments extend well beyond the traditional fire hazard. The fire service is the primary responder to almost all local hazards, protecting community’s commercial as well as human assets and firehouses are the closest connection government has to disaster-threatened neighborhoods.

Pre-fire planning has been a responsibility fire departments have assumed for many years as a means of evaluating the fire risk within a community. The threat of fire is only one disaster a community needs to plan for. The research completed for this paper indicated severe weather events as one of the greatest threats for a large-scale disaster in this community. The planning process used by the fire service must be expanded upon to evaluate all of the potential disasters.

The community's expectations are that the emergency service agencies will respond and manage their emergency when one occurs. The average citizen doesn't think about the fire department, what a modern fire department provides (services), or more importantly what the fire department needs until the time comes that the citizen experiences an emergency. A crucial issue for the future is whether the fire service can influence public perception so that fire departments are viewed as exceedingly important agencies that deserve continuing strong support (Fire Chief's Handbook, 1995, pg. 1132). It is important for local governments to act first to attend to the needs of the community in the event of an emergency no matter what the size and complexity of the incident.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act states:

"It is the intent of Congress, by this Act, to provide an orderly and continuing means of assistance by the Federal Government to State and local governments in carrying out their responsibilities to alleviate the suffering and damage which result from disasters.

The purpose of this title is to vest responsibility for emergency preparedness jointly in the Federal Government and the several States and their political subdivision."

Citizens expect elected and appointed officials take immediate action to deal with the emergency problem and to provide the appropriate protection. The elected leadership in each jurisdiction is legally responsible for ensuring that necessary and appropriate actions are taken to protect people and property from the consequences of emergencies and disasters (FEMA, 1996).

Emergency operations during a large-scale event are more of a process of gathering the appropriate resources (human and physical) to mitigate the emergency and cascading events. An effective EOP will address the process in which those resources will be gathered, who has the responsibility to order the resources, when to order them, and how they will be ordered. Certain

items that enhance accountability and ease of use should preface the EOP. Among these are the promulgation document, the signature page, the dated title page and the record of changes, the record of distribution, and the table of contents. “The promulgation document is usually a letter signed by the jurisdiction’s chief executive. In it, the chief executive might declare simply that the EOP is in force, perhaps citing the legal basis for his or her authority to make that declaration” (FEMA, 1996).

Local, regional, and State EOPs as described in the State of Wisconsin statutes are developed to be integrated in governmental hierarchy. As resources are depleted in a jurisdiction the next level of government is requested to release resources or funding to allow for a continuity of services. In order for this to occur the legal basis must be established at each level of government. Procedures describing this process must be included in the EOP.

As stated in the problem statement of this ARP “The problem is the Town of Grand Chute does not have an Emergency Operations Plan (EOP) in place for such times when a disaster of any kind should strike the Township.” The research and the information gathered supports the development of an EOP for the Town of Grand Chute. Failure to follow through with the development of an EOP may lead to the inability of the Town to effectively manage a large-scale emergency incident creating further harm to the community. The research indicated a history of such events effecting the area and region and there is a high likelihood of such incidents occurring in the future.

RECOMMENDATIONS

The problem introduced by the author of this ARP is the Town of Grand Chute does not have an Emergency Operations Plan (EOP) in place for such times when a disaster of any kind should strike the Township. The research collected and evaluated presents substantial evidence

that severe weather, hazardous materials, and potential terrorist events present the greatest vulnerability. Severe weather events also present as the most likely probability of occurrence.

The following recommendations are provided to assist the Town of Grand Chute address the needs of the community and ensure appropriate planning measures are in place to manage a large-scale emergency in our community:

- The results of the community risk assessment need to be incorporated into a plan and review process and updated on an annual basis or as needed.
- Create a Town of Grand Chute Emergency Operations Planning Committee consisting of the Town Administrator, Fire Chief (Emergency Management Coordinator), Police Chief, Community Development Director, Public Works Director, and Outagamie County Emergency Management Coordinator. The mission of this committee will be to develop a Town of Grand Chute EOP meeting the needs of this community. The formation of this committee should be established during the winter of 2005. The goal for this committee would be to evaluate the data presented in this ARP and allow each committee member the time to effectively research the respective items each of these disciplines (administration, law enforcement, public works, community development, emergency management) would bring to the formation of an EOP.
- Training for all Town employees must be completed to ensure each employee carries out essential components of the plan. Additional consideration should include training for all employees and elected official on NIMS, ICS, damage assessment, weather spotting, and severe weather procedures.
- Once the EOP is developed and the training is completed the Town should conduct a series of exercises to evaluate the effectiveness of the plan and the training provided. The

first exercise should consist of a table top exercise leading to a full-scale exercise or incorporating the Town of Grand Chute into one of the full-scale exercises the County conducts on an annual basis. Emphasis should be placed on the need for the Town Administrator along with department heads and supervisory personnel to attend FEMA Emergency Management Institute training courses associated with emergency management planning and courses that minimize the impact of disasters.

- The EOP must be evaluated and updated on a consistent basis. After an exercise is conducted or if the EOP is utilized during an actual emergency a post-incident analysis or after action report must be completed. Any recommended changes must be evaluated and if warranted the changes incorporated into the EOP.

The author of this ARP recognizes the benefits of a well-developed EOP for this community. The research clearly identifies that municipalities of similar size within the State of Wisconsin have developed, update, and utilize an EOP. Cooperation from Town staff along with elected officials, and outside organizations will be required to complete the EOP for the Town of Grand Chute. The safety of this community and the ability for people and businesses to continue after a disaster is dependant on the Town's ability to effectively plan for and recover from a disaster. The anticipated completion date to fully implement these recommendations is March 2006.

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APPENDIX A

Hazard Identification

Hazard	Probability	Estimated Population
Atmospheric Hazards		
• Tornadoes	1. Unlikely 2. Possible 3. Likely	5000+
• Damaging Winds	1. Unlikely 2. Possible 3. Likely	2500
• Hail	1. Unlikely 2. Possible 3. Likely	5000+
• Winter Storm	1. Unlikely 2. Possible 3. Likely	5000+
• Extreme Temperatures	1. Unlikely 2. Possible 3. Likely	5000+
Natural Hazards - Hydrologic		
• Flooding	1. Unlikely 2. Possible 3. Likely	250
• Drought	1. Unlikely 2. Possible 3. Likely	250
Natural Hazards - Geologic		
• Earthquake	1. Unlikely 2. Possible 3. Likely	5000+
Technological Hazards		
• Power Failure	1. Unlikely 2. Possible 3. Likely	5000+
• Hazardous Materials	1. Unlikely 2. Possible 3. Likely	5000+
• Loss of Domestic Water	1. Unlikely 2. Possible 3. Likely	5000+

Hazard Identification

Hazard	Probability	Estimated Population
Criminal Hazards		
• Terrorism	1. Unlikely 2. Possible 3. Likely	5000+
• Civil Disturbance	1. Unlikely 2. Possible 3. Likely	200
Fire		
• Major Structure Fire	1. Unlikely 2. Possible 3. Likely	500
• Wildland Fire	1. Unlikely 2. Possible 3. Likely	100

Vulnerability Assessment

Atmospheric Hazards	Tornados	Damaging Winds	Hail	Winter Storm	Extreme Temps
Impact Rating					
Danger/Destruction/Personal Harm High=3, Moderate=2, Low=1	3	2	2	2	3
Economic Permanent=3, Temporary=2, Immediate Short Term=1	2	2	2	2	2
Environmental High=3, Moderate=2, Low=1	2	1	1	1	2
Social High=3, Moderate=2, Low=1	2	2	1	2	1
Political Planning Level Federal=3, Regional=2, Local=1	3	2	1	2	2
Total Vulnerable Rating Sum of all factors	12	10	7	9	10
Rank <ul style="list-style-type: none"> • Low = 5 to 8 • Moderate = 9 to 11 • High = 12 to 15 	High	Mod	Low	Mod	Mod

Vulnerability Assessment

Natural Hazards Hydrologic - Geologic	Flooding	Drought	Earthquake		
Impact Rating					
Danger/Destruction/Personal Harm High=3, Moderate=2, Low=1	2	2	3		
Economic Permanent=3, Temporary=2, Immediate Short Term=1	2	2	3		
Environmental High=3, Moderate=2, Low=1	2	2	3		
Social High=3, Moderate=2, Low=1	2	2	3		
Political Planning Level Federal=3, Regional=2, Local=1	2	2	3		
Total Vulnerable Rating Sum of all factors	10	10	15		
Rank <ul style="list-style-type: none">Low = 5 to 8Moderate = 9 to 11High = 12 to 15	Mod	Mod	High		

Vulnerability Assessment

Technological Hazards	Power Failure	Haz - Mat	Loss of Domestic Water		
Impact Rating					
Danger/Destruction/Personal Harm High=3, Moderate=2, Low=1	2	3	1		
Economic Permanent=3, Temporary=2, Immediate Short Term=1	3	2	3		
Environmental High=3, Moderate=2, Low=1	1	3	1		
Social High=3, Moderate=2, Low=1	2	3	2		
Political Planning Level Federal=3, Regional=2, Local=1	2	3	1		
Total Vulnerable Rating Sum of all factors	10	14	8		
Rank <ul style="list-style-type: none"> Low = 5 to 8 Moderate = 9 to 11 High = 12 to 15 	Mod	High	Low		

Vulnerability Assessment

Criminal / Fire Hazards	Terrorism	Civil Disturbance	Major Structure Fire	Wildland Fire	
Impact Rating					
Danger/Destruction/Personal Harm High=3, Moderate=2, Low=1	3	2	3	2	
Economic Permanent=3, Temporary=2, Immediate Short Term=1	3	2	2	1	
Environmental High=3, Moderate=2, Low=1	2	1	2	2	
Social High=3, Moderate=2, Low=1	3	2	2	1	
Political Planning Level Federal=3, Regional=2, Local=1	3	1	1	1	
Total Vulnerable Rating Sum of all factors	14	8	10	7	
Rank <ul style="list-style-type: none"> Low = 5 to 8 Moderate = 9 to 11 High = 12 to 15 					

Risk Rating

	Probability of Occurrence			Vulnerability			Risk
Hazards	3	2	1	3	2	1	Rating (PxV)
Natural Hazards - Atmospheric							
• Tornados		X		X			6
• Damaging Winds	X				X		6
• Hail	X					X	3
• Winter Storm	X				X		6
• Extreme Temperatures		X			X		4
Natural Hazards – Hydrologic							
• Flooding		X			X		4
• Drought		X			X		4
Natural Hazards - Geologic							
• Earthquake			X	X			3
Technological Hazards							
• Power Failure		X			X		4
• Hazardous Materials		X		X			6
• Loss of Domestic Water		X			X		4
Criminal / Fire Hazards							
• Terrorism		X		X			6
• Civil Disturbance		X				X	2
• Major Structure Fire		X			X		4
• Wildland Fire			X			X	1

APPENDIX B

June 15, 2005

Fire Chief:

I am currently in the third year of the Executive Fire Officer (EFO) program at the National Fire Academy. This program requires a research project at the end of each class designed to address a problem specific to the student's department.

This year's class, Executive Analysis of Fire Service Operations in Emergency Management focused on risk assessment, incident documentation, media/political considerations, standards, legal mandates, capability assessment, damage assessment, emergency operations, Integrated Emergency Management System (IEMS), Emergency Operations Center (EOC), and emergency information systems.

The research I am conducting for the required applied research paper will focus on emergency operation planning and the supporting planning documents of similar sized municipalities. The goal of this research project will be to evaluate if similar sized municipalities are using emergency operations plans, the strategies and methodologies these municipalities used to develop their plan, what their plan includes, if the plan has been utilized during an emergency situation since it was developed, and the plans effectiveness.

Please take a few moments to answer the questions found on the attached survey and return it in the enclosed, self-addressed envelop no later than July 5, 2005. Additionally, if you have an emergency operations plan I would be very grateful if you sent it to me to assist in the development and research of this applied research paper. Enclosed is my business card with my business and email address.

Respectfully,

Todd A. Farley

Emergency Operation Planning

Survey

Name of your jurisdiction:_____

Name and rank/position of the person
completing this survey:_____

Phone number and email address: _____

1. What is the population of your jurisdiction?
2. Does your municipality have a local emergency operations plan in place?

Please circle

YES NO

- 2a. If your response was “**NO**” do you anticipate developing an emergency operations plan for your jurisdiction?

Please circle

YES NO

- 2b. If your response was “**NO**” please list the reason(s) you are not going to develop an emergency operations plan:_____
- _____
- _____
- _____

3. How was your emergency operation plan developed:

- Example/sample document from another jurisdiction? Please list the example/sample source:_____
 - Committee of personnel from your municipality?
 - Partnering with the County Emergency Management Office?
 - Other (please describe):_____
- _____
- _____

4. How often is your emergency operations plan exercised?
5. Who attends training and exercises on the emergency operations plan from within your jurisdiction (please list): _____
- _____
- _____
- _____
- _____
6. That you know of, how many times has your emergency operations plan been utilized during an actual emergency situation?

5a. Was your jurisdictions emergency operations plan effective during the emergency situation (please circle the appropriate rating)?

- Very effective
- Somewhat effective
- Was not effective

5b. If your response was “somewhat effective” or “was not effective” please explain why and if any changes were implemented: _____

Again, thank your for taking the time to complete this survey. I look forward to receiving your emergency operations plan document.